

**Abstract:****Projector with flat light sources**

5    Optical system designs for projectors using flat light sources are disclosed. These projectors make use of imagers that manipulate the transmission or reflectance of light through electronically controlled pixels. The optical systems of the invention employ a rectangular flat light source that is matched to the aspect ratio of the imager itself, thus enabling very efficient use of light. Several flat light sources are possible for this  
10   projection system, including flat fluorescent lights and field emission light sources. Collimation of these light sources is an option. Polarization conversion means is also disclosed for such flat light sources, so that the light output is almost totally linearly polarized. Such projection systems can be very compact.

15

20